PREHOSPITAL CARE

Importance of emergency identification schemes

L Morton, S Murad, R Z Omar, K Taylor

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See end of article for authors' affiliations

Correspondence to: Sister L Morton, Department of Cardiothoracic Surgery, Bowling Pfizer Heart Valve Research Unit, Hammersmith Hospital, Du Cane Road, London W12 0NN, UK; e-mail: lmorton@ic.ac.uk

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Background: Millions of people worldwide may have a hidden medical condition that could endanger their life in an emergency. These conditions may include cardiac conditions, severe allergies, or diabetes. Emergency identification schemes such as Medic Alert produce emblems that alert health care professionals to potential problems and can ensure appropriate and prompt treatment. This paper uses mechanical failure of the Björk-Shiley convexo-concave (BSCC) heart valve as an example of a hidden medical condition. These patients have been encouraged to carry information to alert staff in an emergency that they have a BSCC patient in their care and to be alert to the signs and symptoms of acute valve malfunction.

Objective: To establish awareness and credibility of emergency identification schemes among emergency personnel and to assess if information on specific medical conditions would influence ambulance personnel regarding destination hospitals.

Methods: Questionnaires were sent to senior staff (n=380) of accident and emergency (A&E) departments and operational directors of ambulance headquarters (n=39) throughout the United Kingdom. Hospitals were divided into regional divisions to assess differences in responses across regions.

Results: The majority of respondents (99%) had heard of emergency identification schemes and felt that it was important for patients with special conditions to carry some form of identification. Nearly all ambulance respondents (97%) indicated it was routine to search for body worn emblems in contrast with only 71% of A & E staff. However, more than half of ambulance respondents (53.9%) stated information on emblems/cards would not influence their choice of destination hospital.

Conclusions: The importance of how information on pre-existing medical conditions can influence care, is highlighted by the BSCC valve issue, where immediate diagnosis is essential for patient survival. It is vital that all staff routinely search patients for this information and if necessary act upon the information provided.

> "More mistakes are made by not looking than by not knowing".[1]

It is thought that millions of people worldwide have a hidden medical condition that could endanger their life in an emergency. If these conditions are unknown to attending emergency personnel and the patient is unable to communicate, mistakes may be made in accurately treating the patients and appropriate treatment delayed, on rare occasions with tragic consequences. These hidden conditions may include, severe allergies to certain medications, diabetes, and the presence of implanted prosthetic heart valves.

Emergency identification schemes such as Medic Alert and SOS have been in existence for over 40 years. These non-profit making charities produce body worn emblems (fig 1) and laminated wallet style cards (Medic Alert only) that alert health care professionals to potential problems and can ensure appropriate and prompt treatment.

One example of a hidden medical condition is the presence of a Björk-Shiley convexo-concave (BSCC) heart valve, which has received a great deal of media attention over the past 10 years. The BSCC valve was implanted into about 86 000 patients worldwide between 1978 and 1986. Outlet strut fracture (OSF) is known to occur in a small proportion of implanted valves, resulting in escape of the disc and catastrophic cardiac failure.[2–9] Failure of this valve remains a concern for about 35 000 living patients worldwide and the patient's only hope of survival is swift diagnosis and immediate transfer to a cardiothoracic surgical facility for emergency surgery.

Patients with this prosthesis have been encouraged in many countries, including the UK and USA, to join emergency identification schemes to alert emergency personnel that the wearer has a BSCC valve implanted. If the patient has signs and symptoms of cardiac/respiratory distress (symptoms have been reported to be similar to those of myocardial infarction or pulmonary embolism[3]) these may be related to failure of their implanted device and the patient should be taken to the nearest cardiothoracic unit.

To date there have been 61 reported OSF events in the UK (45 mitral and 16 aortic). A survey by the UK BSCC registry at the Hammersmith Hospital has shown that from 1982 to date, of the 17 OSF patients transferred to cardiothoracic facilities, 10 patients survived. However, a further 28 patients who experienced OSF were taken to hospitals without cardiothoracic surgical facilities, were treated medically in accident and emergency (A&E) departments or intensive care unit and all died within 24 hours of admission.

In 1994 the Department of Health sent letters,[10] to all A&E departments and ambulance headquarters informing personnel, in particular those who usually do not attend patients with heart valves that they may have BSCC patients in their care and to be especially alert to the signs and symptoms of acute valve malfunction. In addition staff were advised that patients may be wearing/carrying identifying information.

The BSCC valve issue is a strong example of how information on pre-existing medical conditions can ensure prompt and appropriate treatment. However, encouraging any patient to wear identification on their person must be supported by emergency personnel awareness of the presence of these emblems/cards. This information is of no use unless it is diligently searched for as a matter of routine.[11]

Abbreviations: BSCC, Björk-Shiley convexo-cancave valve; OSF, outlet strut fracture

Figure 1 Examples of the emblems.

To investigate awareness of identification schemes among emergency personnel, a survey was undertaken in the UK. The purpose of the survey was to:

- Establish the extent of awareness among emergency staff of the emergency identification schemes (Medic Alert, SOS, etc) and the services they provide.
- Establish the credibility of such an identification scheme by assessing the importance placed on such items.
- To assess if it is a routine procedure to look for body worn emblems or wallet style cards on admission.

METHODS

Standardised questionnaires were sent to senior representatives of all UK emergency departments (190 A&E consultants, 190 senior sisters) and to the operational directors of ambulance headquarters (n=39) throughout the UK. These personnel were asked about their knowledge of emergency identification schemes and for their opinion on the potential benefits to patients. In addition ambulance staff were asked "if information on a specific condition would influence the hospital the patients were taken to (for example, patients with implanted cardiac devices who may require emergency cardiac surgery)". Hospitals were divided into regions in accordance with promotional divisions used by the Medic Alert Foundation. Differences in responses across regions and occupation were investigated.

RESULTS

Of the 190 hospitals and 39 ambulance headquarters included in the survey, eight hospitals and six headquarters did not respond. Overall 72% of A&E staff who were sent questionnaires (83% nurses compared with 61% doctors) and 85% of ambulance personnel participated in the survey. There was no regional or occupational bias among non-respondents.

Most personnel questioned (99%) had heard of body worn emblem schemes including Medic Alert and SOS. However, 5% of all A&E staff and 10% of ambulance personnel stated that they were not aware that patients in their care could be carrying important medical information. More staff remembered treating patients with body worn emblems rather than wallet cards. A higher number of A&E staff (88%) than ambulance personnel (59%) stated that they had seen patients wearing emblems in the past year. Most personnel who responded felt that it was important for patients with special conditions to carry some form of identification. However, very few (17%) of A&E staff had used emergency helplines such as those provided by Medic Alert to obtain further information on the patient. Overall, only 71% of A&E staff indicated that it was generally routine to search for such body worn items, in contrast with 97% of ambulance respondents.

More than half (53.9%) of ambulance respondents stated that information available on pre-existing conditions would not influence their choice of destination hospital and that patients would usually be taken to the nearest A&E department. There were no statistically significant differences found between occupation or across regions for any responses.

CONCLUSIONS

Awareness of Medic Alert and similar body worn emblem schemes is high among emergency staff although significantly fewer personnel were aware that the patients might be carrying a wallet card containing information. The majority agrees on the benefits of carrying important medical information, most notably for patients who are unconscious or unable to communicate. However, in contrast with these opinions, nearly 30% of A&E staff indicated that it was not routine to search for items or to request additional information on the patient. Furthermore, it seems that this information is less likely to influence whether ambulance personnel deliver patients to designated hospitals. Although action by ambulance crews may be governed by distances to the nearest cardiothoracic facility, this is not in accordance with actions recommended by the Department of Health.

The importance of how information on pre-existing medical conditions can influence care is highlighted by the BSCC valve issue where immediate diagnosis is essential for patient survival and it is vital that all staff routinely search patients for this information and if necessary act upon the information provided.

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Authors' affiliations
L Morton, S Murad, K Taylor, Imperial College School of Science, Technology and Medicine, National Heart and Lung Institute, Department of Cardiothoracic Surgery, Hammersmith Hospital, London, UK
R Z Omar, Department of Statistical Science, University College London, London, UK

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